REMARKS

An essential aspect of the present invention is that at least one of the precursors of a doped anionic clay, boehmite, MgO or brucite be doped. This is in marked contradistinction to substituting cations in the anionic clay structure or having a physical mixture of the doping additives and the anionic clay precursors. Applicants have discovered that the use of precursors in one or more of which the dopant is already incorporated provides a certainty as to the amount of additive ending up in the anionic clay and the degree of dispersion of the doping additive in the anionic clay.

U.S. Patent No. 5,507,980 (Kelkar), cited by the Examiner, discloses the preparation of hydrotalcite-like materials with a sheet-like morphology (col. 1, lines 13-15). In col. 3, lines 27-33, it is stated that this morphology "could also be formed when magnesium was partly (....) substituted from a family of cations consisting essentially of Ni, Co, Zn, Cu, Mn; and aluminum was partly (...) substituted from a family of cations consisting of Cr and Fe." Kelkar is thus saying, as confirmed by claims 2 and 3, that the Mg or Al cations in the hydrotalcite structure can be substituted for other cations.

Kelkar does not indicate how one can prepare hydrotalcite with substituted cations, and certainly does not disclose or suggest the use of doped boehmite, doped MgO, or doped brucite.

The instant claims are therefore novel and unobvious over Kelkar.

The Examiner also cited WO 99/41196 ('196) and WO 00/44672 ('672) as basis for alleged obviousness of the present invention.

'672 relates to the preparation of anionic clays by hydrothermally treating an aqueous suspension comprising a magnesium source and boehmite which

has been peptized with an inorganic acid (page 11, lines 4-5, and claim 1). The aqueous suspension is obtained by either combining slurries of the starting materials or by adding magnesium source to a slurry of boehmite or vice versa (page 11, lines 11-13). According to page 13, lines 24-26, additives can be added either to the aluminum or magnesium source or to the slurry during preparation of the anionic clay.

Thus, WO '672 teaches to add additives to the aluminum source or the magnesium source. There is nothing in '672 to suggest that addition involves more than preparing a physical mixture of the additive and the aluminum or magnesium source.

Claim 1 of the present application relates to a process for the preparation of doped anionic clay wherein a trivalent metal source is reacted with a divalent metal source, at least one of the metal sources being either doped boehmite, doped MgO, or doped brucite. In other words, this process requires the use of a starting material in which the dopant is already incorporated (page 5, lines 14-16).

As stated above, the problem associated with a physical mixture of additive and aluminum or magnesium source – as disclosed in WO '672 - is that the amount of additive ending up in the anionic clay is uncertain. Furthermore, if the additive is a water-soluble salt, the pH of the aqueous suspension will determine whether or not the salt precipitates and, consequently, whether or not the additive can end-up in or on the anionic clay. Even if it precipitates, the question remains whether it precipitates in or on the anionic clay or as a separate phase next to the anionic clay. Hence, the amount and dispersion of the additive ending up in the anionic clay cannot be easily controlled by the prior art process (present application, page 4, lines 20-29).

This problem is solved by having the dopant already incorporated in the starting material, i.e. by using doped boehmite, doped MgO, or doped brucite as starting material (present application, page 5, lines 16-26).

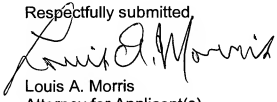
Because the process of claim 1 solves a problem over the process of '672 and because neither '672 nor any of the other cited documents suggests to incorporate the additive in the aluminum or magnesium source, claim 1 is inventive.

The same arguments apply to '196, which also discloses adding the additives either to the aluminum or magnesium source or to the slurry during preparation of the anionic clay (page 14, lines 25-29), but not the use of a doped precursor.

CONCLUSION

No prior art cited by the Examiner gives any hint to the use of doped precursors in the making of anionic clay. The present invention is novel and unobvious over the prior art. An early allowance of the instant claims is respectfully requested.

Respectfully submitted,



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